REMARKS

The present invention comprises a disk drive slider having a layer of mechanical shock protection that is provided by means of an overcoat layer. The overcoat layer is applied only on the areas of the slider that are prone to contact a read/write disk of the drive when the head is loaded off the platform, or when the head is shocked while in operation over the data zone of the disk. The material used to form the layer absorbs shock and reduces wear, and is bonded or sputtered to the slider in a region other than the air bearing surfaces. This region is typically the reactive-ion etched surface area and is slightly recessed below the air bearing surface of the slider. In alternate versions of the invention, the slider is protected by covering only the corners of lateral side edges of the slider with a suitable material.

In contrast, the cited prior art reference *Comstock* discloses an electrostatic discharge coating 20, 40 (Figures 3a, 3b, and 3c) that covers the entire slider/head assembly, other than the transducer 19 itself. In Figure 3a, only a small portion of the coating (having dimensions A and B) is removed from the head. Col. 4, lines 42-44. In Figures 3b and 3c, the coating very precisely tapers down to the transducer itself. Col. 4, lines 47 and 54-56. Thus, in all three cases, the entire assembly 13 (Figure 5) including ABS 32 is coated with the coating, except for a portion of the trailing edge of the assembly at transducer 19. Col. 4, lines 27-29.

The claims have been rewritten to further clarify the present invention and to further distinguish over the cited reference. For example, claim 1 now requires "a coating on the entire top surface of the supporting structure other than the air bearing surfaces of the protrusions, such that the air

bearing surfaces are completely free of the coating." *Comstock's* side profile views of Figures 3a, 3b, and 3c clearly indicate that the entire assembly 13, including the air bearing surfaces 32 of rails 34 (Figure 5), are completely covered by the coatings 20, 40. The only portion of *Comstock's* assembly that is not covered is the tip at the trailing edge which includes the transducer 19. Since claim 1 requires the coating on the entire top surface of the supporting structure "other than the air bearing surfaces of the protrusions," and, "the air bearing surfaces [to be] completely free of the coating," claim 1 is not anticipated by *Comstock*.

Moreover, since the goal of *Comstock's* coating is to discharge static electricity to protect the electrically-sensitive transducer, one skilled in the art would not be inclined to reduce the coating on other portions of the assembly. Rather, one skilled in the art would use the electrical coating wherever "possible electromagnetic shielding effects" or a reduction in "magnetic coupling" would be negligible or at least not affect the performance of the transducer. Col. 4, lines 15-20. For these reasons, claim 1 is not obvious in light of *Comstock* and is now in condition for allowance.

Claims 2-4 and 7 depend from claim 1 and are allowable for the same reasons as claim 1 in addition to their further distinguishing characteristics. For example, claim 2 now requires "the coating is located on and completely encases the entire pocket of the top surface of the supporting structure." It is not possible for *Comstock* to encase its entire pocket since a portion of its coating *must* be removed from that portion of the pocket adjacent to its transducer. Claim 3 adds structural definitions and then states that "the coating is located on each of the corners of the top surface of the supporting structure." Each of Figures 3a, 3b, and 3c clearly indicated that the trailing edge corners

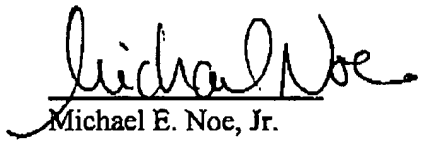
are not coated. Claim 4 requires the coating to be "located along and completely coats an entire length of the lateral edges of the top surface of the supporting structure." Finally, claim 7 redefines the material of the coating as any "metals, carbon, doped carbon, and polymers" (supported on page 8, lines 5-11), whereas *Comstock's* coating is limited to just metals. Col. 5, lines 47-48. It is *Comstock's* slider/head assembly that is made of ceramic or polymer plastic (col. 3, lines 44-46), but there is no mention of carbon or doped carbon.

Independent claim 8 draws upon many of the same features as claim 1. However, claim 8 requires two different types of protrusions: both air bearing protrusions and "at least one shock-absorbing protrusion." *Comstock* only has air bearing protrusions, and has no elements that may be characterized as shock-absorbing. Claim 8's shock-absorbing protrusion has "a height with respect to the pocket that differs from a height of the plurality of air bearing protrusions, such that the at least one shock-absorbing protrusion is discontinuous with the plurality of air bearing protrusions." This structural limitation truly distinguishes *Comstock's* singular type of protrusion. In addition, claim 8 states that the shock-absorbing protrusion "comprises a material that is softer than the supporting structure." Claims 9, 10, and 12 depend from claim 8 and are similar to the preceding dependent claims. Claim 8 and its progeny are not anticipated by nor obvious in light of *Comstock* and are therefore in condition for allowance.

Claims 13-15 are narrowly tailored to the combination of a slider as described above and a magnetic recording device. These claims contain the features and elements described above for the foregoing claims and are likewise distinguishable over the cited reference.

It is respectfully submitted that the claims are in condition for allowance and favorable action is requested. No extension of time is believed to be required. However, in the event that an extension of time is required, please charge that extension fee and any other required fees to **IBM Corporation Deposit Account Number 09-0466.**

Respectfully submitted,



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REDACTED VERSION OF THE CLAIMS

Cancel claims 5, 6, 11, and 16.

Amend claims 1-4, 7-10, and 12-15.

1. (Amended) A slider for a disk drive, comprising:

a supporting structure having a top surface [with] including a pocket and a plurality of protrusions protruding from the pocket, each of the protrusions having [where] a protruding end [of the protrusions forms] that defines an air bearing surface; and

a coating on the entire top surface of the supporting structure other than the air bearing surfaces of the protrusions, such that the air bearing surfaces are completely free of the coating; and wherein the coating [being] is formed from a material that is softer than the supporting structure.

2. (Amended) The slider of claim 1 wherein the coating is located on and completely encases the entire pocket of the top surface of the supporting structure. Fig 4 ?

3. (Amended) The slider of claim 1 wherein the top surface of the supporting structure has a leading edge, lateral edges, a trailing edge, and a plurality of corners located at intersections of the leading edge, the lateral edges, and the trailing edge, and the coating is located on [one or more] each of the corners of the top surface of the supporting structure. Fig 2

4. (Amended) The slider of claim 1 wherein the top surface of the supporting structure has a leading edge, a trailing edge, and lateral edges extending therebetween, and the coating is located along and completely coats an entire length of the lateral [sides] edges of the top surface of the supporting structure. Fig 3

5. (Canceled) The slider of claim 1 wherein the coating is sputtered onto the top surface of the supporting structure.

6. (Canceled) The slider of claim 1 wherein the material of the coating is a metal.

7. (Amended) The slider of claim 1 wherein the material of the coating is selected from the group consisting of metals, carbon, doped carbon, and polymers.

8. (Amended) A slider for supporting a transducer for use in a disk drive, comprising:

a [support] supporting structure having a top surface [with] including a pocket, a leading edge, a trailing edge, lateral edges extending between the leading and trailing edges, corners located at intersections between the leading edge, the lateral edges, and the trailing edge; [with]

a plurality of air bearing protrusions protruding from the pocket;[, and]

at least one shock-absorbing protrusion protruding from the pocket and having a height with respect to the pocket that differs from a height of the plurality of air bearing protrusions, such that the at least one shock-absorbing protrusion is discontinuous with the plurality of air bearing protrusions; and wherein

each of the air bearing protrusions and the at least one shock-absorbing protrusion has [where] a protruding end [of the air bearing protrusions form] that defines an air bearing surface, and the at least one shock-absorbing protrusion comprises a material that is softer than the supporting structure.

9. (Amended) The slider of claim 8 wherein the at least one shock-absorbing protrusion comprises a plurality of shock-absorbing protrusions, each of which is located at [a corner] a respective one of the corners of the top surface of the supporting structure.

10. (Amended) The slider of claim 8 wherein the shock-absorbing protrusion comprises a plurality of shock-absorbing protrusions, each of which is located along an entire length of a respective one of the lateral [sides] edges of the top surface of the supporting structure.

11. (Canceled) The slider of claim 8 wherein the shock-absorbing protrusion is sputtered onto the top surface of the supporting structure.

12. (Amended) The slider of claim 8 wherein the shock-absorbing protrusion comprises a material selected from the group consisting of metals, carbon, doped carbon, and polymers.

13. (Amended) A magnetic recording device for reading or writing magnetically, comprising in combination:

[(a)] a disk comprising a substrate and a metallic magnetic layer;

[(b)] a head support on a slider for magnetically reading data to or writing data from the magnetic layer on the disk, the slider comprising a [support] supporting structure having a top surface with a pocket [and], the top surface of the supporting structure having a leading edge, a trailing edge, lateral edges extending between the leading and trailing edges, and a plurality of corners located at intersections of the leading edge, the lateral edges, and the trailing edge;

a plurality of air bearing protrusions [and at least one shock-absorbing protrusion] protruding from the pocket [where], each of the air bearing protrusions having a protruding end [of the air bearing protrusions form] that defines an air bearing surface, [and the shock-absorbing protrusion comprises] wherein at least some of the air bearing protrusions are shock-absorbing protrusions, each having a height relative to the pocket that differs from a height of other ones of the air bearing protrusions, such that the shock-absorbing protrusions are discontinuous with said other ones of the air bearing protrusions, and at least the air bearing surfaces of the shock-absorbing protrusions comprise a material that is softer than the supporting structure;

[(c)] a motor operable to rotate the disk; and

[(d)] an actuator connected to the slider for moving a head across the disk.

14. (Amended) The device of claim 13 wherein each of the shock-absorbing [protrusion] protrusions is located at a [corner] respective one of the corners of the top surface of the supporting structure.

15. (Amended) The device of claim 13 wherein each of the shock-absorbing [protrusion] protrusions is located and extends along an entire length of a respective one of the lateral [sides] edges of the top surface of the supporting structure.

16. (Canceled) The device of claim 13 wherein the shock-absorbing protrusion is sputtered onto the top surface of the supporting structure.